

EXHIBIT R-2, RDT&E Budget Item Justification							DATE:	
							February 2006	
APPROPRIATION/BUDGET ACTIVITY REASEARCH DEVELOPMENT TEST & EVALUATION, NAVY /						R-1 ITEM NOMENCLATURE 0604272N, TADIRCM		
BA 4								
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
Total PE Cost	21.341	9.807	20.527	45.689	63.765	38.572	42.464	
3040 ANTI-MISSILE TECHNOLOGY (TADIRCM)	6.994	9.807	20.527	45.689	63.765	38.572	42.464	
3166 CH-53 DIRCM TAP	14.347							
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:								
TADIRCM is a Tactical Aircraft Directed InfraRed Countermeasure system. TADIRCM provides the warfighter with protection against surface and air to air missiles. This project looks at the infrared (IR) MANPAD & surface to air (SAM) threat. FY 2005 Congressional language provided funding for the completion of the Early Operational Assessment (EOA) project into flight test. The completion is scheduled for 2006.								
Strike Directed Infrared Countermeasure System Development and Demonstration (Strike DIRCM SDD) designed for fixed wing aircraft is an anticipated ACAT II program, which anticipates receiving a MS B decision in First Quarter FY 2007. The Strike DIRCM SDD will leverage information gained during the EOA to develop and field a DIRCM system for Naval assault aircraft by 2013. Strike DIRCM is needed for protection against Surface to Air and Air-to-Air IR threats. Strike DIRCM regains airspace below 20K feet. DIRCM neutralizes the IR threat.								
Assault DIRCM is anticipated to IOC in 1st quarter FY 2014. Assault DIRCM is an advanced capability against the IR SAM threat. Recent losses to assault aircraft, as a result of IR SAMs, require an advanced DIRCM solution.								
CH-53 Directed InfraRed Countermeasures (DIRCM) Technology Assessment Program (TAP) is a FY 2005 Supplemental Add. The funding will be used for the test of all applicable USSOCOM MH-53 DIRCM system capable hardware and software, hardware-in-the-loop countermeasure effectiveness modeling and simulation, the integration and installation of a flight testing, a complete de-modification of the aircraft will be performed to return it to a serviceable condition.								

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EXHIBIT R-2a, RDT&E Project Justification								DATE:
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME	
RDT&E, N /		BA 4					0604272N, TADIRCM	
3040, ANTI-MISSILE TECHNOLOGY (TADIRCM)							3040, ANTI-MISSILE TECHNOLOGY (TADIRCM)	
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	
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RDT&E Articles Qty								
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>TADIRCM is a Tactical Aircraft Directed InfraRed Countermeasure system. TADIRCM provides the warfighter with protection against surface and air to air missiles. This project looks at the infrared (IR) MANPAD &amp; surface to air (SAM) threat. FY 2005 Congressional language provided funding for the completion of the Early Operational Assessment (EOA) project into flight test. The completion is scheduled for 2006.</p> <p>Strike Directed Infrared Countermeasure System Development and Demonstration (Strike DIRCM SDD) designed for fixed wing aircraft is an anticipated ACAT II program, which anticipates receiving a MS B decision in First Quarter FY 2007. The Strike DIRCM will leverage information gained during the EOA to develop and field a DIRCM system for Naval assault aircraft by 2013. Strike DIRCM is needed for protection against Surface to Air and Air-to-Air IR threats. Strike DIRCM regains airspace below 20K feet. TADIRCM neutralizes the IR threat.</p> <p>Assault DIRCM is anticipated to IOC in 1st Quarter FY 2014. Assault DIRCM is an advanced capability against the IR SAM threat. Recent losses to assault aircraft, as a result of IR SAMs, require an advanced DIRCM solution.</p>								

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>		PROGRAM ELEMENT NUMBER AND NAME <b>BA 4 0604272N, TADIRCM</b>		PROJECT NUMBER AND NAME 3040, ANTI-MISSILE TECHNOLOGY (TADIRCM)	
B. ACCOMPLISHMENTS / PLANNED PROGRAM:					
	FY 2005	FY 2006	FY 2007		
Accomplishments / Effort / Sub-total Cost	6.994				
RDT&E Articles Qty					
<p>The objective of this Tactical Aircraft Directed InfraRed Countermeasure (TADIRCM) Initial Suitability project is to take science and technology components and configure into an airborne pod and perform limited effectiveness testing. The output will be test articles consisting of a 2-color missile warning sensor or sensors to detect and declare the threat; an off-the-shelf Advanced Technology Demonstration laser coupled to a new miniature pointer/tracker which takes the declared threat from the missile warning and passes to a fine track sensor in the pointer/tracker, subsequently slewing and applying laser energy to counter the threat. All this will be contained within a newly designed wing-mounted pod. FY 2005 accomplishments include the POD design and build, the delivery of 2 missile warning sensors, design and build of the system processor, and design and build of pointer/trackers by two separate contractors.</p>					
	FY 2005	FY 2006	FY 2007		
Accomplishments / Effort / Sub-total Cost		9.807	20.527		
RDT&E Articles Qty					
<p>FY06 continues efforts begun with the design and build of a podded DIRCM system, (incorporating missile warning sensors, system processor and pointer/tracker), and flight test the pod to provide an assessment of the advanced technology in simulated flight conditions. Information gained during this Early Operational Assessment (EOA) will be leveraged to develop and field a DIRCM system for Strike aircraft by 2013, and Assault aircraft by 2014.</p> <p>In conjunction with the flight testing of the DIRCM pod, intensive pre-SDD efforts begin in FY 2006 including but not limited to: Analysis of Alternatives (AOA) for Strike and Assault DIRCM, pre-SDD contracting actions, initiation of program documentation to support milestone B decision in FY 2007, and development of applicable modeling and simulation models beginning in FY 2007.</p> <p>Strike Directed Infrared Countermeasure System Development and Demonstration (Strike DIRCM SDD) designed for fixed wing aircraft is an anticipated ACAT II program, which anticipates receiving a MS B decision in First Quarter FY 2007 and an SDD contract award in 3rd Quarter FY 2007. Strike DIRCM is needed for protection against Surface-to-Air and Air-to-Air IR threats. Strike DIRCM regains airspace below 20K feet. Assault DIRCM is an advanced capability against the IR SAM threat. Recent losses to assault aircraft, as a result of IR SAMs, require an advanced DIRCM solution.</p>					

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C. PROGRAM CHANGE SUMMARY

Funding:	FY 2005	FY 2006	FY 2007	
Previous President's Budget:	7.133	9.956	22.003	
Current BES /President's Budget:	6.994	9.807	20.527	
Total Adjustments	-0.139	-0.149	-1.476	

  

Summary of Adjustments				
Congressional Reductions				
Congressional Rescissions				
Congressional Undistributed Reductions	-0.141	-0.104		
Congressional Increases	0.002			
Economic Assumptions		-0.045	0.121	
Miscellaneous Adjustments			-1.597	
Subtotal	-0.139	-0.149	-1.476	

  

Schedule:

Schedule has changed as a result of technical issues with the Army's Suite of Integrated Infra-Red Countermeasures (SIIRCM) system and delays in contract deliveries.

  

Technical:

In June 2005, it was determined that the Army's Advanced Technology Infrared Countermeasure (ATIRCM) was not meeting all of it's performance requirements within the curent schedule, resulting in a program deviation report. In December 2005, the Army revised their ATIRCM acquisition strategy which delayed future ATIRCM spirals until 2010.

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APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>			PROGRAM ELEMENT NUMBER AND NAME <b>BA 4 0604272N, TADIRCM</b>			PROJECT NUMBER AND NAME 3040, ANTI-MISSILE TECHNOLOGY (TADIRCM)																							
<p>D. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">FY 2005</th> <th style="text-align: center;">FY 2006</th> <th style="text-align: center;">FY 2007</th> <th style="text-align: center;">FY 2008</th> <th style="text-align: center;">FY 2009</th> <th style="text-align: center;">FY 2010</th> <th style="text-align: center;">FY 2011</th> <th style="text-align: center;">To Complete</th> <th style="text-align: center;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>APN-5, Line 50 Common ECM, OSIP 001-11</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">37.000</td> <td></td> <td style="text-align: right;">37.000</td> </tr> </tbody> </table> <p>E. ACQUISITION STRATEGY: The management and acquisition strategy for the Tactical Aircraft Directed InfraRed Countermeasure (TADIRCM) Initial Suitability assessment entails a competitive phased approach to reduce risk to cost and schedule through viable competition. This Early Operational Assessment (EOA) project awarded two contracts for pointer/tracker/laser development, one contract for pod development, and one contract for missile warning sensors. The Naval Research Lab will be the technical lead in integration of these pointer/trackers, lasers, and sensors within the pod utilizing government furnished processors and ancillary data recording equipment. The Navy selected one contractor in FY 2005 to one pointer/tracker/laser contract at the fabrication point to ensure the project does not exceed budget and can be executed as described here.</p> <p>The Assault Directed Infrared Countermeasure (DIRCM) program is anticipated to be a spiral upgrade to the Army's Suite of Integrated Infrared Countermeasures (SIIRCM), whereas the lead of this spiral upgrade has yet to be determined. The Army and Navy will pursue a common solution on a joint set of requirements for this spiral upgrade. It is anticipated this spiral upgrade DIRCM solution will address the more advanced IR SAMs.</p> <p>The Strike DIRCM program will maximize use of technology developed under the EOA. Strike DIRCM is a podded family of systems. The program will accomplish component redesign/repackaging necessary to survive the tactical aircraft environment. The program will conduct tests to verify system performance meets the tactical environment.</p>											FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost	APN-5, Line 50 Common ECM, OSIP 001-11							37.000		37.000
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Complete	Total Cost																				
APN-5, Line 50 Common ECM, OSIP 001-11							37.000		37.000																				

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Exhibit R-3 Cost Analysis (page 1)									DATE: February 2006			
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT				PROJECT NUMBER AND NAME						
RDT&E, N /		BA 4		0604272N, TADIRCM		3040, ANTI-MISSILE TECHNOLOGY (TADIRCM)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT												
Primary Hdw Development	C-CPFF	GALAXY SCIENTIFIC CORP, EGG HARBOR	4.143	1.010	1/19/2005						5.153	5.153
Primary Hdw Development	C-CPFF	RAYTHEON TECH SVCS, INDIANAPOLIS,IN	1.430	1.245	1/19/2005						2.675	2.675
Primary Hdw Development	C-CPFF	TBD				1.600	TBD	15.882	12/1/2006	170.484	187.966	187.966
Primary Hdw Development	VARIOUS	VARIOUS	1.600	.545	VARIOUS						2.145	2.145
Systems Eng	RX	TEKLA	1.950	.689	9/8/2005						2.639	2.639
SUBTOTAL PRODUCT DEVELOPMEN			9.122	3.489		1.600		15.882		170.484	200.577	
Remarks:												
SUPPORT												
Configuration Management	VARIOUS	VARIOUS				.050	VARIOUS	.100	VARIOUS	1.508	1.658	
Development Support	VARIOUS	VARIOUS						.170	VARIOUS	1.900	2.070	
Integrated Logistics	VARIOUS	VARIOUS				.150	VARIOUS	.150	VARIOUS	2.600	2.900	
Software Development	VARIOUS	VARIOUS		.050	VARIOUS	.300	VARIOUS	.202	VARIOUS	9.750	10.302	
Studies & Analysis Non-FFRDC)	C-CPFF	JOHNS HOPKINS UNIV, COLUMBIA, MD		.600	4/11/2005						.600	
Studies & Analysis Non-FFRDC)	C-CPFF	MACAULAY-BROWN INC, DAYTON, OH		.290	4/11/2005						.290	
Studies & Analysis Non-FFRDC)	C-CPFF	TBD				2.000	TBD				2.000	
SUBTOTAL SUPPORT				.940		2.500		.622		15.758	19.820	
Remarks:												
TEST & EVALUATION												
Developmental T&E	VARIOUS	VARIOUS						.250	VARIOUS	5.100	5.350	
Live Fire Support	WX	NAWCWD, CHINA LAKE CA						1.250	6/1/2007	21.200	22.450	
Operational Test & Evaluation	WX	OPER T & E FOR CD 30, NORFOLK VA		.015	10/26/2004	.394	5/15/2006			7.700	8.109	
Technical Maturation	WX	NRL, WASHINGTON DC	.200	1.900	3/1/2005						2.100	
Technical Maturation	WX	VARIOUS				.573	VARIOUS				.573	
Test Assets	WX	NAWCWD, CHINA LAKE CA				.500	4/15/2006	.250	5/1/2007	6.925	7.675	
Eng & Evaluation	WX	VARIOUS				2.000	VARIOUS				2.000	
Eng & Evaluation (NON-FFRDC)	RX	TEKLA				.447	3/15/2006				.447	
SUBTOTAL TEST & EVALUATION			.200	1.915		3.914		1.750		40.925	48.704	
Remarks:												
MANAGEMENT												
Direct Support Costs	VARIOUS	VARIOUS	.006	.138	VARIOUS	.037	VARIOUS				.181	
Eng & Tech Spt (NON-FFRDC)	VARIOUS	VARIOUS		.050	VARIOUS	.200	VARIOUS	.200	VARIOUS	3.200	3.650	
Government Engineering Support	WX	NAWCAD, PATUXENT RIVER MD	.085	.405	11/23/2004	.720	11/15/2005	.200	11/15/2006	10.100	11.510	
NAWCAD/Pax Support	WX	NAWCAD, PATUXENT RIVER MD				.500	1/1/2006	1.500	12/1/2006		2.000	
Program Mgt Support (NON-FFRDC)	VARIOUS	TBD				.200	VARIOUS				.200	
NAWCWD/Pt Mugu Support	WX	NAWCWD, PT MUGU CA						.350	12/1/2006		.350	
Transportation	WX	DIA, REDSTONE ARSENAL AL		.007	2/1/2005						.007	
Travel	WX	NAWCAD, PATUXENT RIVER MD	.033	.050	10/1/2004	.136	10/1/2005	.023	10/1/2006	.190	.432	
SUBTOTAL MANAGEMENT			.124	.650		1.793		2.273		13.490	18.330	
Remarks:												
Total Cost			9.446	6.994		9.807		20.527		240.657	287.431	
Remarks:												

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## CLASSIFICATION:

EXHIBIT R4, Schedule Profile

DATE:

February 2006

APPROPRIATION/BUDGET ACTIVITY					PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME											
RDT&E, N /					0604272N TADIRCM												3040 TADIRCM											
Fiscal Year	2005				2006				2007				2008				2009				2010				2011			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pod Contract																												
MWS Contract																												
Software Development and Test																												
Flight Test																												
EOA Report																												
Strike DIRCM SDD Contract																												
PDR																												
CDR																												
DT/OT																												
Assault DIRCM AoA																												
Strike DIRCM AoA																												

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R-1 Shopping List Item No 80

Exhibit R-2a, RDTEN Project Justification



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EXHIBIT R-2a, RDT&E Project Justification								DATE:	February 2006
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E, N /</b>		<b>BA 4</b>		PROGRAM ELEMENT NUMBER AND NAME <b>0604272N, TADIRCM</b>			PROJECT NUMBER AND NAME 3166, CH-53 DIRCM TAP		
COST (\$ in Millions)	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
3166 CH-53 DIRCM TAP	14.347								
RDT&E Articles Qty									
<p>A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>CH-53 Directed InfraRed Countermeasures (DIRCM) Technology Assessment Program (TAP) FY 2005 Supplemental funding is for the fabrication and installation of a temporary modification of a Navy/Marine Corps CH-53E aircraft with the same DIRCM capability as currently employed on the USSOCOM MH-53.</p>									

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